

WHAT IS CLAIMED IS:

- 5 1. A data conversion method comprising the steps of:  
outputting a value which represents distance from  
an input value to a grid point of a look-up table, and  
is normalized by a sufficiently large value, using the  
look-up table; and  
executing data conversion of the input value by  
interpolating the value obtained by the look-up table.
- 10 2. The method according to claim 1, wherein the data  
conversion interpolates an input value having not less  
than two dimensions using tetrahedral interpolation.
3. The method according to claim 1, wherein the  
sufficiently large value is a power of 2.
4. The method according to claim 1, wherein  
positions of the grid point are equal to each other in  
all input dimensions.
5. The method according to claim 1, wherein the  
input value is image data in one of RGB, CMY, and XYZ  
color spaces.
- 20 6. A data conversion apparatus comprising:  
storage means for storing a table, that outputs a  
value which represents distance from a grid point of a  
look-up table to an input value, and is normalized by a  
sufficiently large value, with respect to the input  
25 value; and

computation means for executing data conversion of the input value by interpolating the value obtained by the look-up table.

7. The apparatus according to claim 6, wherein said computation means interpolates an input value having not less than two dimensions using tetrahedral interpolation.

8. The apparatus according to claim 6, wherein the sufficiently large value is a power of 2.

9. The apparatus according to claim 6, wherein positions of the grid point are equal to each other in all input dimensions.

10. The apparatus according to claim 6, wherein the input value is image data in one of RGB, CMY, and XYZ color spaces.

11. A computer program product comprising a computer readable medium having a computer program code, for a data conversion method, the product comprising:

a normalization process procedure code for outputting a value which represents distance from an input value to a grid point of a look-up table, and is normalized by a sufficiently large value, using the look-up table; and

a conversion process procedure code for executing data conversion of the input value by interpolating the value obtained by the look-up table.

12. A computer readable medium recorded data which is used in a data conversion process, the data comprising:

table data for outputting a value which represents distance from a grid point of a look-up table to an input value, and is normalized by a sufficiently large value, with respect to the input value; and

data representing a computation for executing data conversion of the input value by interpolating the value obtained by said look-up table using the value obtained by said table data.

13. An image processing method comprising the steps of:

selecting a plurality of grid points on the basis of input data;

obtaining values, which represent distances between the selected grid points and the input data, and are normalized by a predetermined value; and

executing interpolation on the basis of the obtained values and data of the plurality of grid points.

14. The method according to claim 13, wherein the interpolation is a process for executing tetrahedral interpolation for input data having not less than two dimensions.

15. The method according to claim 13, wherein the predetermined value is a power of 2.

16. The method according to claim 13, wherein positions of the grid point are equal to each other in  
5 all input dimensions.

17. The method according to claim 13, wherein the input value is image data in one of RGB, CMY, and XYZ color spaces.

18. An image processing apparatus comprising:  
10 selection means for selecting a plurality of grid points on the basis of input data;

normalization means for obtaining values, which represent distances between the selected grid points and the input data, and are normalized by a  
15 predetermined value; and

computation means for executing interpolation on the basis of the obtained values and data of the plurality of grid points.

19. The apparatus according to claim 18, wherein the  
20 interpolation is a process for executing tetrahedral interpolation for input data having not less than two dimensions.

20. The apparatus according to claim 18, wherein the predetermined value is a power of 2.

21. The apparatus according to claim 18, wherein positions of the grid point are equal to each other in all input dimensions.

22. The apparatus according to claim 18, wherein the  
5 input value is image data in one of RGB, CMY, and XYZ color spaces.

23. A computer program product comprising a computer readable medium having a computer program code, for an image processing method, the product comprising:

- 10       a selection process procedure code for selecting a plurality of grid points on the basis of input data;  
          a normalization process procedure code for obtaining values, which represent distances between the selected grid points and the input data, and are  
15       normalized by a predetermined value; and  
          a conversion process procedure code for executing interpolation on the basis of the obtained values and data of the plurality of grid points.